

**HW ANSWERS:** **p. 172**

27) LSR line:  $\text{gas consumption} = 1425 - 19.87(\text{temperature})$

- (a) For every increase of 1 degree (F) of temperature, the natural gas consumption in Joan's midwestern home decreases by 19.87 cubic feet.
- (b) When the temperature is 0 degrees (F), the natural gas consumption in Joan's midwestern home is 1425 cubic feet.
- (c)  $\text{gas consumption} = 1425 - 19.87(30)$   
 $\text{gas consumption} = 828.90$  cubic feet

28) LSR line:  $\text{laps run} = 10 - (2/3)(\text{pizza slices})$

(b) For every increase of 1 pizza slice eaten, the number of laps run by the players decreases by  $2/3$  lap.

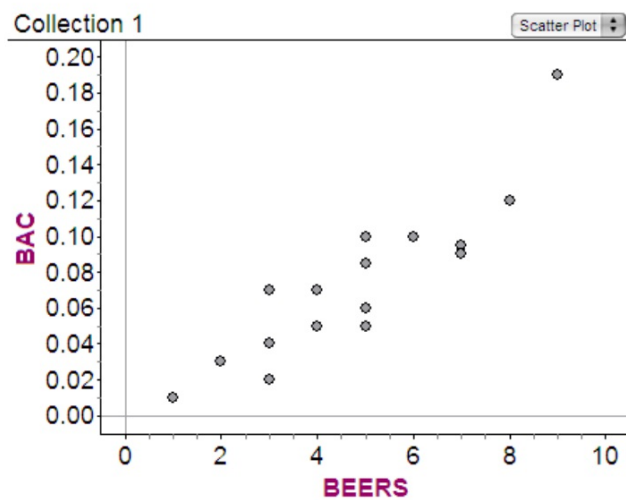
(c) When the number of pizza slices eaten is 0, the number of laps run is 10.

29) (a)  $\text{laps run} = 10 - (2/3)(8)$   
 $\text{laps run} = 4.667$  laps

(b) No, you cannot use the regression line for Ezekial. It would come out to be a negative number!

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37) (a)



(b)  $r = 0.894$ . Yes, the correlation is appropriate, b/c the plot is linear and there are no strong outliers.

(c)  $\hat{y} = -0.013 + 0.018(x)$  or  $\widehat{\text{BAC}} = -0.013 + 0.018(\text{BEERS})$

slope: For every increase in 1 beer drank, the BAC goes up by 0.018 units.

intercept: When the # of beers drank is 0, the BAC is -0.013 units.

COMPLETE #38 (a), (b), and (d) on page 183.

$$r = 0.894$$

38) (a)  $BAC = -0.013 + 0.018(5)$

$BAC = 0.077$  units

(b) No, it would not be accurate. 15 beers is an outlier in the X-Variable

(c) 79.92% of the change in the BAC is due to the change in the number of beers drank.

What % of the change in BAC is due to other factors?

20.08%

Name some other factors:

size of person  
food